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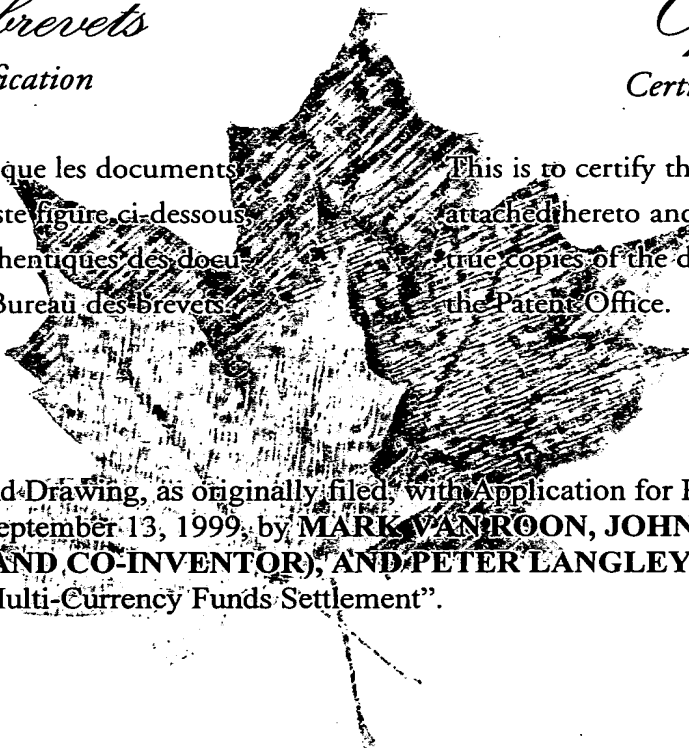
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Specification and Drawing, as originally filed, with Application for Patent Serial No:
2,284,400, on September 13, 1999, by MARK VANROON, JOHN BOOTH, (CO-
APPLICANT AND CO-INVENTOR), AND PETER LANGLEY, for "Method and
Apparatus for Multi-Currency Funds Settlement".

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Method and apparatus for multi-currency funds settlement

Abstract

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Cross border multi-currency payment obligations are met not with conventional complex and expensive FX transactions, but instead with legal persons (typically corporations) in different countries in effect swapping payment obligations so that funds of a party in one
10 country remain in that country and are used to meet the payment obligations in that country of a party outside of that country

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Method and apparatus for multi-currency funds settlement

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Field of the Invention

The present invention relates to a method of and apparatus for multi-currency funds settlement.

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Description of the Prior Art

The Internet offers the promise of allowing buyers and sellers of goods and services to communicate directly with one another, eliminating the need for some of the intermediaries and the associated economic inefficiencies present in conventional selling.

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Hence, for example, it is in 1999 possible to transact many kinds of business using the Internet, which formerly would have required a broker or agent. Examples include the purchase of insurance, airline tickets, books and holidays.

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The Internet also enables new models of buying and selling as well: for example, there are now many Internet auction sites, on which a wide range of goods and services are auctioned to the highest bidder, with the seller merely setting a reserve price or a bid start price. The terms to 'buy' and 'sell' and related expressions should be broadly construed to include any kind of transfer of rights or interests; 'buyers' and 'sellers' should be also broadly construed to include any transferee and transferor of any kind of right or interest.

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The terms 'party' and 'counterparty' are commonly used to describe a situation in which a given party is both a buyer and simultaneously a seller. This can arise, for example, where a party wishes to exchange US\$100 for the equivalent in Sterling. That party is simultaneously a seller of US\$ and a buyer of Sterling.

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Computer systems linking many potential buyers and sellers of goods and services over an extensive computer network also existed prior to the widespread adoption of the Internet, particularly in the financial services sector. One example is the foreign exchange dealing systems developed and run by organisations such as Reuters plc and the EBS Partnership. In these systems, banks post the prices at which they are willing to buy

or sell defined quantities of currencies. The systems may automatically spot matches – i.e. where a buyer is willing to buy at a price at which a seller is willing to sell – and complete the trade. If a potential buyer of currency can find no-one willing to sell at a price it considers low enough, then typically, that potential buyer will simply have to
5 either wait for the pricing in the market to become more favourable, or else be prepared to pay more. Such systems are commonly used for currency speculation, namely taking a trading position with respect to one or more given currencies to exploit favourable pricing movements.

- 10 Where a buyer and seller regularly trade with one another, it is normal to aggregate all transactions over a defined period of time and for just a single net payment to be made. Hence, for example, if party A buys 50 units at \$1 from party B over a week, and counterparty B buys 20 units at \$1 from party A over that same week, then the respective payment obligations can be netted off so that A pays \$30 to B at the end of the week.
- 15 This same principle applies to the more sophisticated environment of trading foreign exchange and other financial property. Where more than a single party and counter-party pair are involved, for example, a 3 way group or even higher orders, multilateral netting can be applied.
- 20 In addition to the need for speculative currency trading, there exists also a very substantial need for corporations to buy and sell foreign currency, for example, to pay overseas suppliers. Similarly, individuals travelling abroad or making foreign investments need to obtain foreign currencies as well. Currently, corporations and individuals will approach a bank or foreign currency vendor (such as American Express
25 Inc.) to obtain foreign currency. The bank or foreign currency vendor will in turn often have obtained its stocks of foreign currency from other banks, in many cases having used an inter-bank trading system such as the Reuters or EBS systems. Because of the chain of intermediaries, the transaction cost of buying or selling foreign exchange in this way is quite high: this is reflected in the commission charged and the difference between the bid
30 and the offer prices: a bank will typically sell foreign currency at a rate considerably
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higher than the rate at which it will buy it back. For small transactions, the difference can be 4%. For larger transactions, the difference is typically 5 basis points.

The mechanics of multi-currency cross border funds settlement is quite complex. For example, take the situation, where a company in the US, with US dollars in a US account, wishes to pay a supplier in England in Sterling. The typical steps required for this to be completed using a wire transfer process is the following: Assume that company C located in the US has to pay a supplier in Sterling but has no Sterling receivables to do so. The actual mechanics of the wire transfer are typically follows:

A. Funds are debited from C's US home bank account immediately on direction to wire transfer and the US dollar funds credited to the US home bank, typically in a general account.

B. The wire transfer direction to pay is directed to the domestic payment system of the wire transfer receiver which would reconcile it through the international clearing system SWIFT with the domestic payment system of the wire transfer originator. Each country has at a minimum one international clearing bank that interfaces domestically with the payment system. (eg. Canada TD, US The Fed and Chase, UK Barclays). The wire transfer protocol ensures that the home bank is holding the funds, and, as such, the receiving bank can execute the transaction for the receiver.

C. Either, the UK clearer transfers the funds from the US bank's "nostra" account (either the home bank if it has a nostro account or the correspondent US bank having a nostra account) to the account with the UK correspondent bank and then to the bank of the wire transfer receiver (if they are not the same) through the UK domestic payment system. Hence C has met its obligation in the UK.

D. The US and UK international clearers reconcile obligations and hence the US clearing authorities debit the originating banks clearing account in the US.

E. Transaction complete.

This process is relatively expensive and involves numerous participants: Two international clearers, one per country, typically two correspondent banks having nostra
5 accounts with each other, two home banks one each for receiver and originator, and two transactors, an originator and a receiver. Also, the home bank holding the funds on the overnight bears the transaction risk

10 Statement of the Invention

In accordance with a first aspect of the invention, the method of multi-currency funds settlement comprises the following steps:

15 funds in a currency X of a first legal person who is situated in country X¹ are transferred in whole or part within country X¹ to satisfy in whole or part the currency X¹ payment obligations of a second legal person, situated in a different country Y¹;

and the funds of that second legal person situated in country Y¹ are transferred in whole or part within country Y¹ to satisfy in whole or part the currency Y payment obligations of a legal person, who may be the first legal person or one or more additional
20 legal persons.

Hence, the essential principle is for cross border multi-currency payment obligations to be met not with conventional complex and expensive FX transactions, but instead with legal persons (typically corporations) in different countries in effect swapping payment
25 obligations so that funds of a party in one country remain in that country and are used to meet the payment obligations in that country of a party outside of that country.

Clearly, full settlement of payment obligations is unlikely to occur where the total system involves only 2 parties and 2 countries, although this too is possible if both parties have
30 corresponding bank accounts in both of the relevant jurisdictions (4 accounts total). The practical realisation of the present invention therefore likely occurs in multi-party, multi country situations, where, given sufficient fund volumes and diversity, all or virtually all

payment obligations can be fully satisfied. With sufficient fund diversity and volumes, most if not all multi-currency cross border settlements can be satisfied using solely domestic transactions: only the residual elements left over after all domestic transactions have been netted off require genuine cross-border settlement. This inherently operates as a risk reduction mechanism as the bank never takes a principal position, but rather acts solely as a custodian. It further reduces the amount that can ever be in dispute by only ever using precleared funds of the various participants. Therefore in the event of a problem which requires transaction unwinding, the most at risk for any party is the gain or loss associated with the interim movement in exchange rates between the relevant currencies.

In a second aspect, there is a computer program operable to perform the above method, namely a computer program receiving data defining the non-domestic payment obligations of parties located in two or more countries, and programmed to identify opportunities to satisfy those non-domestic payment obligations by swapping payment obligations using the funds settlement method defined above.

The present invention utilises a peculiar aspect of currency dealing, namely that the currency of any country does not, typically, ever leave that country. That is to say, for example, a US dollar account in Canada is merely a Canadian dollar account with a conversion factor to a US dollar equivalent.

The present invention utilises a computer-based system to restructure the method of payment and settlement to reduce the number of participants, thereby streamlining the procedure and improving efficiency.

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Detailed Description

The present invention will be described with reference to various examples, as illustrated in the attached Figures.

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The simplest scheme involves 2 parties in 2 countries with equal and off-setting obligations. In the United Kingdom, imagine that a party C¹ has £1million GBP (Great Britain Pounds) in available funds in a bank account in the United Kingdom and needs to pay \$1.5million (US dollars) to its supplier A in the US. In the US, party C² has
10 \$1.5million in available funds in a bank account and needs to pay £1million to its supplier B in the UK. Assume for simplicity that the exchange rate is \$1.5 per GBP. Conventionally, C¹ might wire transfer \$1.5million (US dollars) to supplier A in the US: that process involve the complex steps involving numerous parties explained in the Description of the Prior Art section of this specification.

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Likewise, C² might wire transfer £1million to supplier B in the UK, with equivalent steps. This prior art process is however relatively expensive and slow. In the system of the present invention, however, a central computer system is fed the payment obligations of each party, and rapidly spots that a simple swap of obligations is possible. It then causes
20 party C¹'s £1million to be paid to supplier B in settlement of C²'s payment obligation to supplier B and also causes C²'s \$1.5million to be paid to supplier A in settlement of C¹'s payment obligation to supplier A.

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As noted above, this rudimentary 2 party example is offered as an introductory example of the underlying concept. In practice, there will likely be many parties and many countries.

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As a somewhat more complex example, a 3 party example would operate as follows. In this example, a new intermediary, BuyFX.com, is introduced. BuyFX.com operates the central computer system underlying the present invention.

Assume the following simple scenario, depicted in Chart 1.0 below:

- Corporations: C¹, C², C³
- Corporation's Domestic Financial Institution: FI^{C1}, FI^{C2}, FI^{C3}
- Corporation's Foreign Financial Institution: FI^{FC1}, FI^{FC2}, FI^{FC3}
- BuyFX.com's Correspondent Banking Partners: FI^{BFX1}, FI^{BFX2}, FI^{BFX3}
- C¹ - Owns GBP; Requires USD;
- C² - Owns USD; Requires YEN;
- C³ - Owns YEN; Requires GBP

Chart 1.0

Corporation	Domestic Financial Institution	BuyFX.com Correspondent Bank	Foreign Financial Institution	Domestic Currency	Required Currency
C ¹	FI ^{C1}	FI ^{BFX1}	FI ^{FC1}	GBP	USD
C ²	FI ^{C2}	FI ^{BFX2}	FI ^{FC2}	USD	YEN
C ³	FI ^{C3}	FI ^{BFX3}	FI ^{FC3}	YEN	GBP

- 15 In this example, C¹ cannot satisfy its requirements in whole or in part by dealing with C² exclusively. However, if C³ can be "linked" into the transaction, all three corporations can be satisfied to the value of the smallest available currency.

- 20 Therefore, in simple terms, if C¹'s USD requirement could be satisfied via C², C²'s YEN requirement via C³, C³'s GBP requirement via C¹, you could reduce the number of participants in any leg of a transaction. That is, the various "cross border" elements of a transaction become nothing more than a series of netted domestic transactions.

- 25 Where previously there could be 18 or more participants over 3 transactions, there is now a maximum of 15, with a minimum of 9 (assuming distinct financial institutions in each jurisdiction).

The relationship and methodology to achieve this end is depicted in Figure 1.

- 30 The fundamental requirements for this system are:

- A central computer system, networking participating financial institutions, which calculates transfer amounts and electronically instructs financial institutions in the area of funds direction. (FEDI)
- A network of financial institutions (one or more), which has available to it the mathematical and communications software to relay customer instructions regarding the transfer of funds to a payee.

- A central computer system which uses batch file processing to execute recorded transactions and direct payments accordingly.

Claims

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1. A method of multi-currency funds settlement comprising the following steps:

funds in a currency X of a first legal person who is situated in country X¹ are transferred in whole or part within country X¹ to satisfy in whole or part the currency X¹ payment obligations of a second legal person, situated in a different country Y¹;

10 and the funds of that second legal person situated in country Y¹ are transferred in whole or part within country Y¹ to satisfy in whole or part the currency Y payment obligations of a legal person, who may be the first legal person or one or more additional legal persons.

15 2. A computer program receiving data defining the non-domestic payment obligations of parties located in two or more countries, and programmed to identify opportunities to satisfy those non-domestic payment obligations by swapping payment obligations using the funds settlement method defined in Claim 1.

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